

CHAPTER

1

Executive Summary

Introduction

In 2000, the City of West Linn adopted their first Transportation System Plan (TSP). Since that time, there has been significant growth in West Linn and its surrounding communities, and a few key changes to state highway facility plans in the area. The primary purpose of this update is to address these changes, with focus on:

- Addressing how regional traffic diversion on Interstate 205 affects city street circulation and related access to the Willamette neighborhood area.
- Incorporating Highway 43 Concept Design Plan to serve long-term transportation needs for all travel modes.
- Confirm that the plan is consist with latest Statewide Plans and Policies.
- Ensuring that the high priority system improvements can be funded through existing transportation programs.

This plan fulfills the Transportation Planning Rule (TPR) requirements for comprehensive transportation planning in the cities of Oregon, and presents the investments and priorities for the Pedestrian, Bicycle, Transit, and Motor Vehicle systems along with new transportation programs to correct existing shortfalls and enhance critical services.

For each travel mode, a **Master Plan** project map and list are identified to support the City's transportation goals and policies. Projects that can be funded over the next 20 years are referred to as **Action Plans**.

The TSP provides specific information regarding transportation needs to guide future transportation investment in the City and determine how land use and transportation decisions can be brought together beneficially for the City and is based on needs required to meet transportation demand based on 2030 future needs. This executive summary provides the goals and policies, modal plans and financing summaries. For a more detailed analysis, refer to the remaining chapters for more in-depth information.



Plan Process and Committees

The West Linn TSP update was developed in close coordination with city staff and key representatives from the surrounding communities. Three formal committees participated in the plan development:

- Technical Advisory Committee (TAC) – Agency staff from Oregon Department of Transportation, Metro, TriMet and the City of West Linn participated in reviewing the technical methods and findings of the study. The focus of this group was on consistency with the plans and past decisions in adjoining jurisdictions, and consensus on new recommendations.
- Transportation Advisory Board (TAB) – Residents of West Linn that serve on the Board reviewed preliminary findings and provided input for draft chapters of the document during monthly meetings.
- Tenth Street Task Force – The City Council appointed a citizen member committee to focus on circulation and travel safety issues along the 10th Street exit of I-205. A series of meetings were held with the Task Force to report interim study findings and any outstanding policy issues that required their direction. The meetings were open to participation by the general public.

The committees met regularly through the plan development process to review interim work products, assist in developing and ranking transportation solutions, and to refine master plan elements to ensure consistency with community goals.

The West Linn Transportation System Plan process included the following steps:

- Update Goals and Policies
- Inventory/Data Collection to a year 2007 baseline
- Evaluate Existing Conditions and Future Travel Needs Through Forecasting
- Update Needs by Travel Mode and Consider Alternatives
- Refine Improvement Lists to Mitigate Deficiencies by Mode For 2030 Conditions
- Update Planning and Cost Estimates of Improvements
- Identify Financing Sources
- Draft TSP

As with the 2000 TSP, this TSP's planning objective was to optimize each of these modes of transportation within West Linn with the 2030 forecasted travel demand. The following sections summarize the findings of the Transportation System Plan studies.

Public Involvement

Two public open house events will be held to present findings, and to gather feedback from the community. The first meeting was held on September 20, 2007 to discuss the overall project process, and to present how safe and effective the system operates today. A final Public Open House will be held October 15, 2008, which will review the findings and conclusions of the Transportation System Plan update.



Goals and Policies

The City's Comprehensive Plan lays out a general policy framework regarding transportation services, as well as policies for streets, bicycles, pedestrians, transit, water, freight, and transportation demand management. The goals and policies of this TSP include recommended updates to the Comprehensive Plan, as presented in Chapter 2. These goals and policies were applied in the development of this Transportation System Plan to formulate strategies and implementing measures for each of the travel modes applied in the City of West Linn. The intent of the updated policies was to simplify and/or clarify statements from the 2000 TSP and Comprehensive Plan and to respond to more recent policies that were adopted by the State of Oregon and ODOT.

The overview transportation goals in the Comprehensive Plan are:

1. Provide a transportation system for the City of West Linn that:
 - a) Provides for maximum mobility while encouraging modes of transportation other than the automobile.
 - b) Provides for connectivity within and between neighborhoods and community centers, using new and existing transportation services that are consistent with Metro's street and walkway spacing standards.
 - c) Is convenient, safe, and efficient.
 - d) Maintains the cohesiveness of the City's neighborhoods.
 - e) Is built with consideration for community priorities and affordability.
 - f) Respects and preserves the natural environment on both a neighborhood and City-wide basis.
2. Provide a cost-effective balanced transportation system, incorporating all modes of transportation (including motor vehicle, bicycle, pedestrian, transit, and other modes).
3. Develop transportation facilities that are accessible to all members of the community and minimize out-of-direction travel.

Some specific areas that new or updated policies are recommended include:

General Policies

- Development impacts — Language is proposed that would support developments mitigating their traffic impacts, making frontage improvements, contributing towards onsite and offsite improvements, and preparing traffic impact analyses as needed

Street Policies

- Street design — Clarified to be related not only to the intended use but also the functional class
- Improvement priorities — Areas for specific priority would include improvements for pedestrian and transit riders, high accident locations, street maintenance, neighborhood traffic calming, bicyclists, and travel lane widths.

Pedestrian Policies

- Spacing of routes — Language is proposed that would seek to eliminate gaps in the existing network and use a preferred spacing of no more than 330 feet between pedestrian



network elements. Clarified to be related not only to the intended use but also the functional class

- Funding sources — Language is proposed that supports coordination with other agencies to obtain funding for pedestrian improvements.
- Pedestrian safety – Language is proposed that ensures that pedestrian improvements meet agency standards and that existing locations are retrofitted with ramps.
- Walkway standard review – The policy would be expanded to periodically review that local standards are consistent with regional, state and federal standards.

Transit Policies

- Coordination — Language is proposed that supports coordination with TriMet to support transit amenities and increasing ridership, as well as providing support to special needs riders.
- Accessibility – Language is proposed that would increase accessibility of the transit system to potential riders through a variety of means.

Transportation Demand Management (TDM)

- Employer TDM measures – Clarification is recommended that would not only encourage employers to implement TDM measures as a means of reducing commuter traffic, but also in order to meet regional air quality and vehicle miles traveled (vmt) reductions.

Transportation Plans

The existing system network for each mode (pedestrian, bicycle, motor vehicle, truck and other modes) was updated from the 2000 TSP to reflect completed projects since the original plan was completed. A Master Plan (long term project goals that meet planning requirements) and an Action Plan (projects that are reasonably expected to be funded) were compiled for each transportation mode. These plans are designed to comply with relevant State and adjoining jurisdictions planning documents. The overall findings and conclusions for each travel mode are summarized in the following sections. For full descriptions of the analysis, process, and projects, please refer to individual mode chapters: Chapter 5 – Pedestrian, Chapter 6 – Bicycle, Chapter 7 – Transit, and Chapter 8 – Motor Vehicles.



Pedestrians

An inventory was conducted on collector and arterial streets in West Linn to identify where new or in-fill pedestrian facilities would be most valuable. While sidewalks generally exist along the major corridors (Highway 43, Salamo Road and Rosemont Road), gaps in the system exist. Key issues included an incomplete arterial/collector sidewalk system, reviewing crossing spacing to determine where additional locations are needed, and identifying walkway/crossing needs in conjunction with routes to major transit stops.

The Pedestrian Master Plan was created that cost \$19.7 million to add facilities to meet all these needs. The project locations are illustrated in Figure 5-1, which is duplicated following this section. Of these, several projects were determined to be high priority, based on input received during the public involvement process. The highest valued pedestrian improvements were determined to be located along Highway 43 (as included with the Highway 43 Concept Plan) and were selected for the Action Plan as listed in Table 1-1. Refer to Table 5-2 for a complete list of the Pedestrian Master Plan projects.

Table 1-1: Pedestrian Action Plan (Costs included in Highway 43 Concept Plan)

#	Priority	Location	Sidewalk In Fill Extent	From	To	Cost(s) \$1,000s
2	High	Willamette Drive*	One side of street.	Bolton Street	Failing Street	\$0**
3	High	Willamette Drive*	One side of street.	Failing Street	Davenport Street	\$0**
4	High	Willamette Drive*	One side of street.	Davenport Street	Caufield Street	\$0**
5	High	Willamette Drive*	One side of street.	Caufield Street	Barlow Street	\$0**
6	High	Willamette Drive*	One side of street.	Barlow Street	Dillow Drive	\$0**
7	High	Willamette Drive*	One side of street.	Dillow Drive	Pimlico Drive	\$0**
8	High	Willamette Drive*	One side of street.	Mark Lane	Mapleton Drive	\$0**
9	High	Willamette Drive*	One side of street.	Mapleton Drive	100' south of Cedaroak Drive	\$0**
10	High	Willamette Drive*	Both sides of street.	Cedaroak Drive	Walling Circle (north)	\$0**
11	High	Willamette Drive	Both sides of street.	Fairview Way	Marylhurst Drive	\$0**
12	High	Willamette Drive*	Both sides of street.	Walling Circle (north)	Fairview Way	\$0**
13	High	Willamette Drive*	Both sides of street.	Marylhurst Drive	Shady Hollow Way	\$0**
14	High	Willamette Drive*	Both sides of street.	Shady Hollow Way	North city limits	\$0**

**Included in Highway 43 Concept Plan Cost Estimates



Transportation System Plan

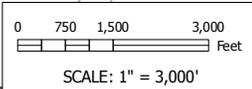
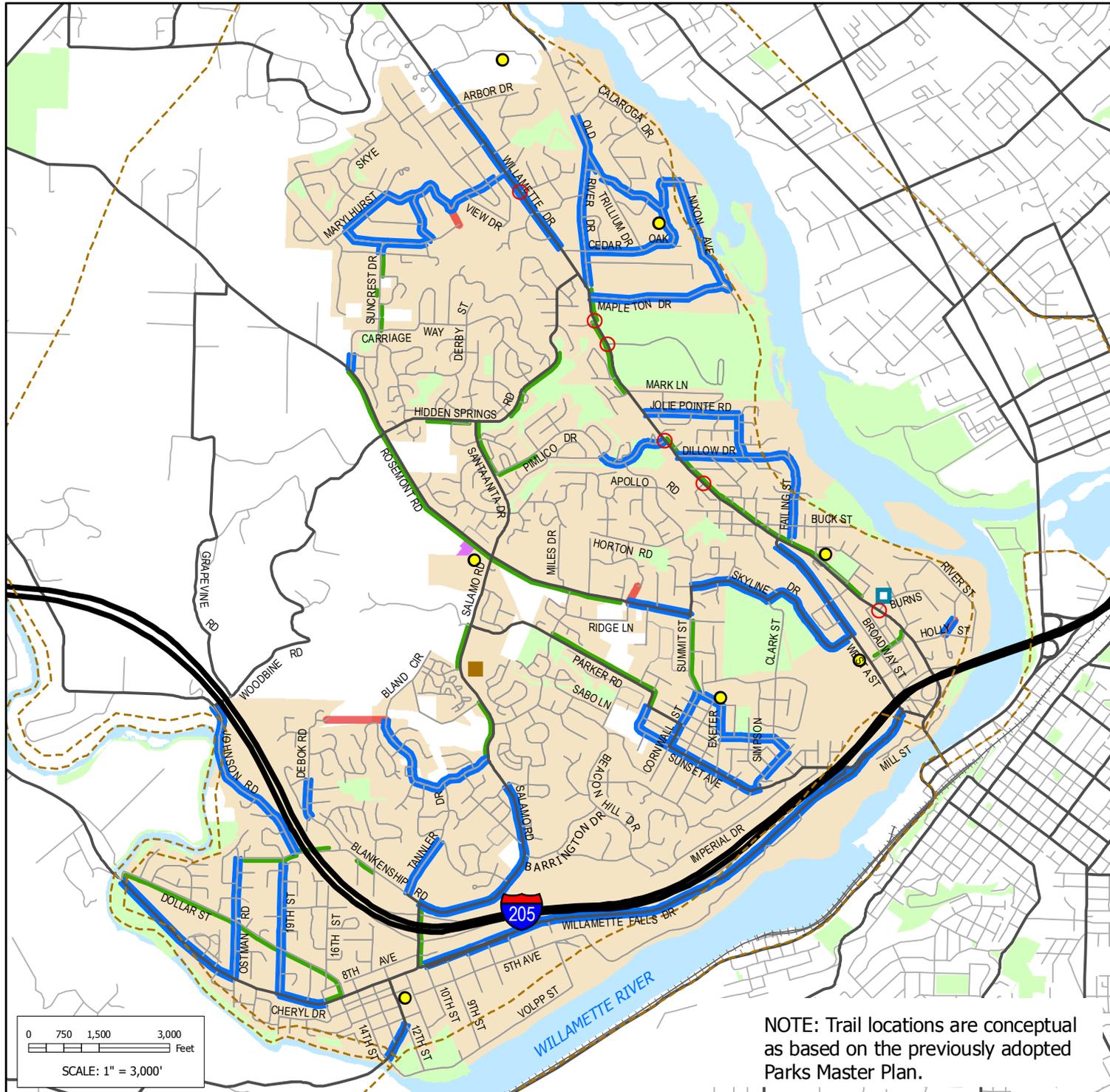
FIGURE 5-1

PEDESTRIAN PLAN

LEGEND

Pedestrian Projects

-  Sidewalk - One Side
-  Sidewalk - Both Sides
-  Proposed Off-Street Path
-  Proposed Crossing
-  Off-Street Path
-  City Hall
-  Schools
-  Library
-  Parks
-  Community Center
-  Freeway
-  Major Roads
-  Streets
-  Railroad
-  Water
-  City Limits



NOTE: Trail locations are conceptual as based on the previously adopted Parks Master Plan.





Bicycles

The arterial roadway system in West Linn has basic bike lanes on a few major facilities, but most of the arterial streets have no designated bike facilities. Nearly all collector streets have no bike facilities at all. The only streets in the city with significant bike facilities are Willamette Drive (Highway 43), West A Avenue, and intermittent segments along Summit Street, Parker Road, and Willamette Falls Drive. In many cases, the slope of the roadway limits the feasibility or need for bike lanes on major arterials. Examples include Hidden Springs Road, and the south end of Salamo Road. Issues to address include the overall connectivity of the bicycle system and the lack of a dedicated bicycle system on collector streets (only shared roadways exists).

A Bicycle Master Plan was created that cost \$8.5 million to implement in today’s dollars. The Master Plan is shown in Figure 6-1, which is duplicated on the next page. Several strategies were identified to address bicycle system needs and to guide project prioritization. This prioritization process helps to focus community investment on those projects that are most effective at meeting important needs, while deferring other projects of lesser need. The highest priority bicycle projects totaled about \$1.8 million. These Action Plan projects (Table 1-2) include adding bicycle lanes to existing streets. Refer to Table 6-2 for a complete list of Bicycle Master Plan projects, including expected implementation phasing over the life of the plan.

Table 1-2: Bicycle Action Plan and Cost Estimates

#	Location	Improvement	From	To	Cost \$1,000s
1	Rosemont Road*	On-street Bike Lanes	Carriage Way	Summit Street	\$1,425
2	Salamo Road*	On-street Bike Lanes	10 th Street	Barrington Drive	\$390
Total Cost					\$1,815



Transportation System Plan

FIGURE 6-2

BICYCLE PLAN

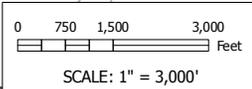
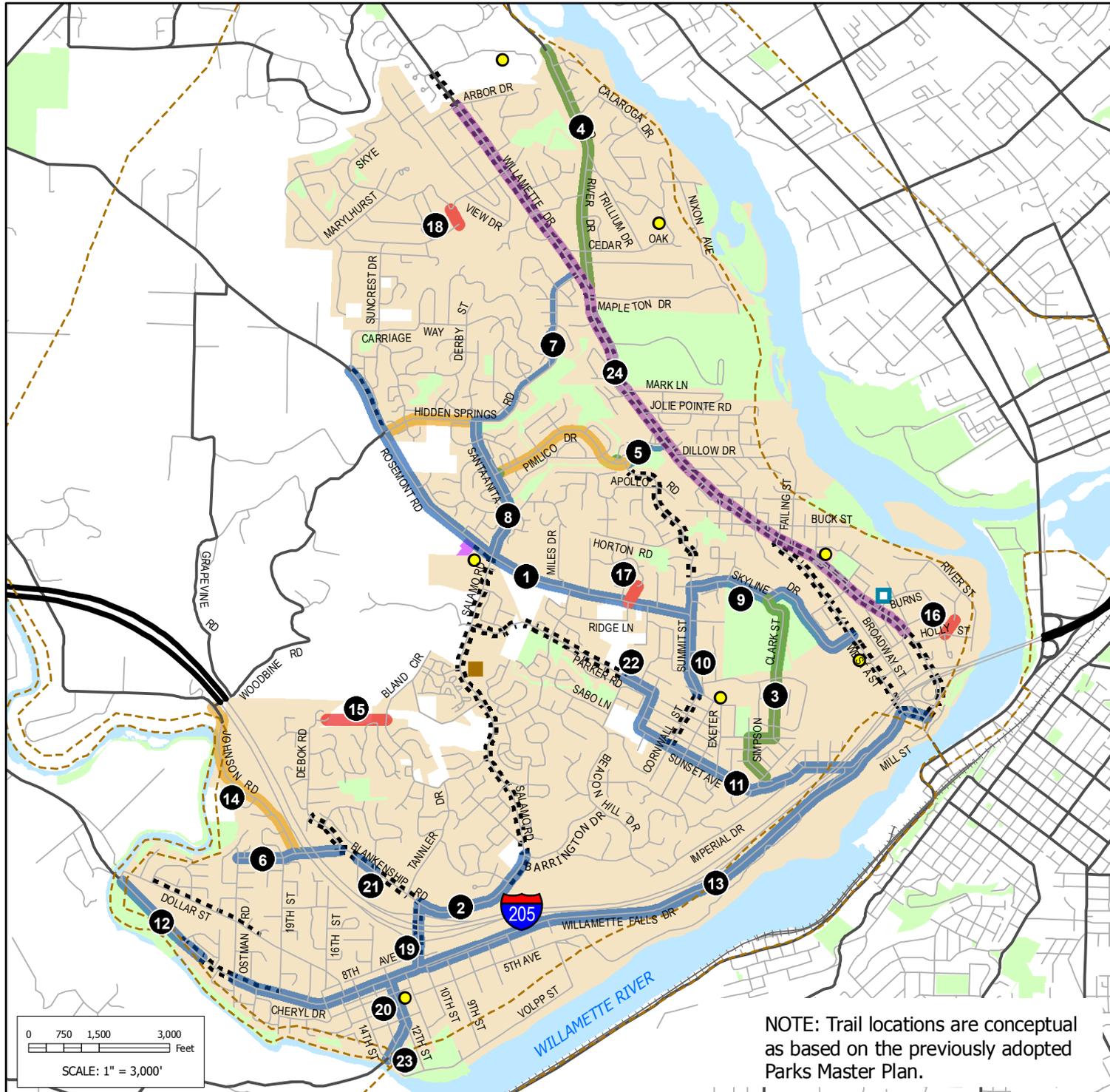
LEGEND

Bicycle Projects

- Bicycle Lane - Raised
- Bicycle Lane - Standard
- Shoulder Bikeway
- Bicycle Boulevard Treatment
- Proposed Off-Street Path

Note: includes lanes under construction at the time of inventory.

- Project Number
- Off-Street Paths
- Existing Bicycle Facility
- City Hall
- Schools
- Library
- Parks
- Community Center
- Freeway
- Major Roads
- Streets
- Water
- City Limits



NOTE: Trail locations are conceptual as based on the previously adopted Parks Master Plan.



Transit

TriMet currently provides transit service to West Linn and operates two routes in the City. Existing service and amenities such as park and ride locations (only one) and bus shelters are limited. None of the existing stops currently meet TriMet’s general ridership threshold (35) for daily boardings and it is likely that the City of West Linn would need to fund future transportation improvements. A recent survey of residents was conducted to determine general opinions and levels of transit use by residents. Key transit needs that were identified include limited accessibility and transit amenities, and difficult connections to regional employment centers.

Four improvement strategies were developed to meet transit needs in West Linn:

- 1) Provide express routes to regional employment centers
- 2) Provide bus shelters/improved user amenities
- 3) Provide additional park and ride lots
- 4) Provide access to activity and service centers

A \$1.3 million transit action plan project list (Table 1-3) was created to identify projects to be funded by the year 2030. A major share of those costs serve as a placeholder for improving local service, pending the outcome of a follow-up transit survey that provides neighborhood data and could be used to determine areas within the City that would benefit from specific improvements.

Table 1-3: Transit Action Plan

Priority	Project	Agency Responsible	Description	Cost (\$1,000s)
High	Improve Service Coordination for Route 154	West Linn/TriMet	Coordinate with TriMet to modify the schedule, stop locations, or add a layover to improve connections and service for Route 154	-
High	Transit Expansion Study and Survey	West Linn	Explore the feasibility of local fixed-route transit service including surveys of residents and potential users.	\$75
High	Provide Transit Amenities at Major Transit Stops	West Linn/TriMet	Provide shelters, information kiosks, etc along key transit routes in West Linn with land use development. Specific locations (5) to be determined through transit study and survey.	\$50
High	Improve Pedestrian Connections to Transit Facilities	West Linn/TriMet	Construct sidewalks, crosswalks, etc. adjacent to transit routes and facilities.	\$0*
Med	Decrease Headways	TriMet	Provide more frequent transit service during peak commute periods.	-
Med / Low	Provide More Local Service	West Linn/TriMet	Expand coverage by providing local service to connect to existing transit lines. Enhance/expand local pick up services. Specific locations/actions to be determined through transit study and survey. This project is a placeholder for funds pending the outcome of the study.	\$50/yr
Transit Project Total (for 23 years)				\$1,275

NOTE: * Specific projects and costs included in Pedestrian Plan of this TSP



Motor Vehicle

A broad set of measures were reviewed to best serve growth in the City of West Linn over the next 20 years. Future travel forecasts showed that current planned improvements will not be sufficient to serve long-range growth to 2030, so other measures are required. Reliable and efficient travel on major city and state facilities within the city will require significant investments in Transportation System Management (TSM), Travel Demand Management (TDM), and roadway improvements. A variety of roadway and highway improvement alternatives were analyzed for meeting these needs. The following sections summarize the recommended motor vehicle system plans that meet the demands of future growth and comply with local and state planning requirements.

Street System Design

The functional street classification system for West Linn includes arterials, collectors, neighborhood routes, and local streets. No changes were proposed to the existing functional classification, shown in Figure 8-1 and duplicated on the next page.

Transportation System Management (TSM)

Transportation System Management (TSM) focuses on low cost strategies to enhance operational performance of the transportation system by seeking solutions to immediate transportation problems, finding ways to better manage transportation, maximizing urban mobility, and treating all modes of travel as a coordinated system. TSM measures focus primarily on region-wide improvements, however several measures that could benefit West Linn include:

Intelligent Transportation Systems (ITS): ITS focuses on increasing the efficiency of existing transportation infrastructure, which enhances the overall system performance and reduces the need to add capacity (e.g. travel lanes). Efficiency is achieved by providing services and information to travelers so they can (and will) make better travel decisions and to transportation system operators so they can better manage the system and improve system reliability.

Clackamas County has prepared an ITS plan for the urbanized area of the County. The plan identifies opportunities for regional coordination and funding and calls for Clackamas County to dedicate funding sources for projects. The Clackamas County ITS Plan¹ identifies ITS projects in West Linn located along I-205 and Highway 43. Projects located in West Linn along each of these facilities (and planned implementation schedules) are:

Highway 43

- CCTV cameras at three locations [Planned 11-20 years]
- Detector station [Planned 11-20 years]
- Incident management corridor [Planned 11-20 years]
- Transit priority corridor (and information display) [Planned 6-10 years]
- Fiber optic cable [Planned 11-20 years]

Interstate 205

- CCTV cameras at four locations [*completed*]
- Fiber optic cable [*completed*]

¹ Clackamas County ITS Plan, DKS Associates, Inc. and Zenn Associates, February 2003.



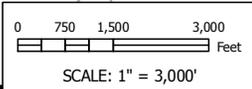
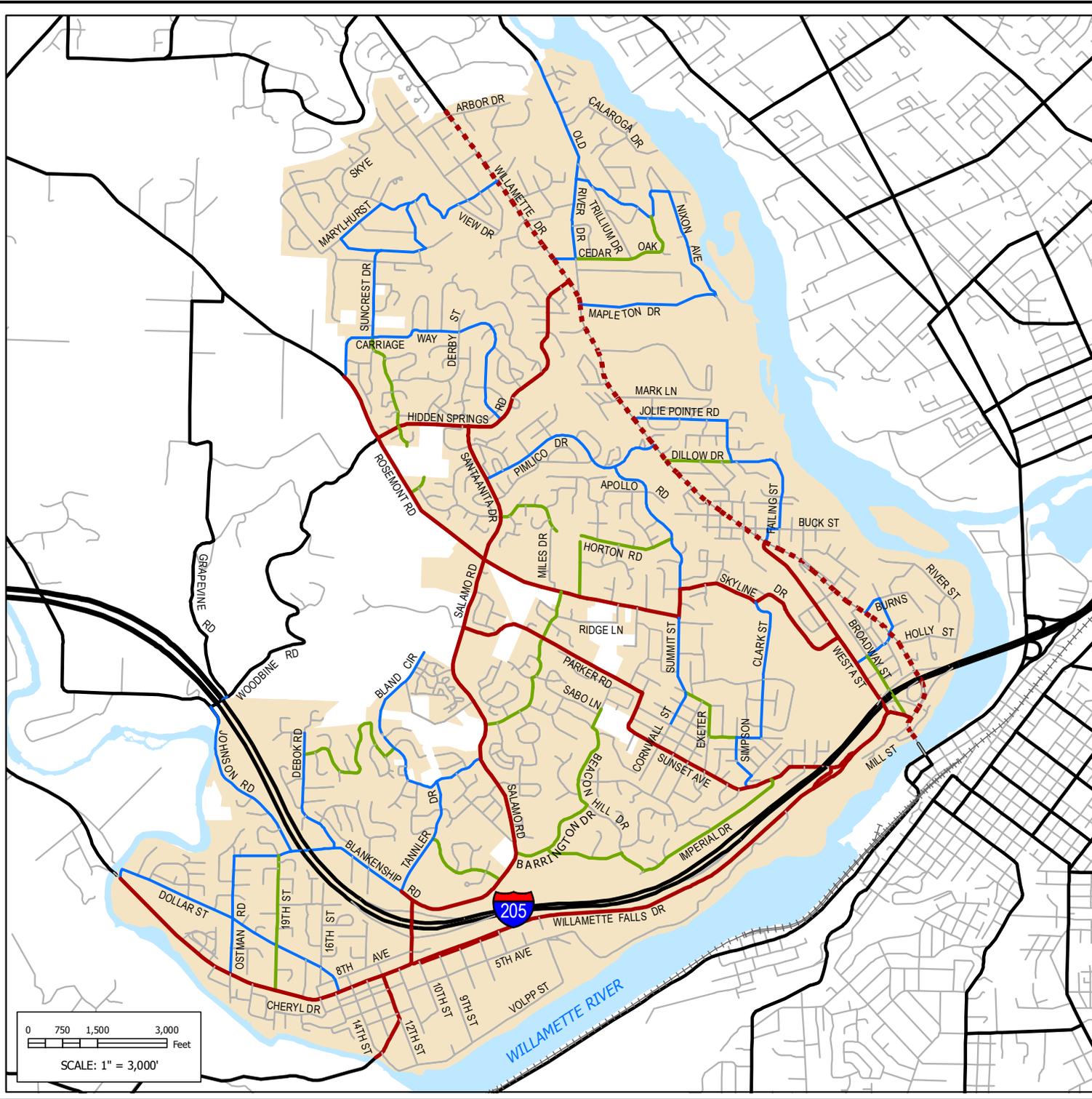
Transportation System Plan

FIGURE 8-1

EXISTING/FUTURE FUNCTIONAL CLASS

LEGEND

- Freeway
- Principal Arterial
- Arterial
- Collector
- Neighborhood Route
- Local Street
- Railroad
- Water
- City Limits





Neighborhood Traffic Management (NTM): The City has an established traffic safety committee which meets on a monthly basis that oversees NTM issues among their other responsibilities. The committee has a set procedure for NTM implementation that starts with the identification of a perceived problem by concerned citizens, after which the committee conducts a speed/volume survey to identify if the problem exists. Once the problem has been identified and classified, the committee discusses the various approaches to solving the problem. There are many different NTM options available to the committee, which are described in the technical appendix. Typically, the committee starts with lower cost solutions, such as education and enforcement and if it is deemed that either of these solutions are not having the desired effect, an engineering solution is selected by the committee. The implementation of the selected NTM solution may be funded by the city and/or the concerned citizens. Often the city pays for the logistics of the NTM implementation and the citizens pay for the material costs.

Access Management: Access Management is a broad set of techniques that balance the need to provide efficient, safe and timely travel with the ability to allow access to the individual destination. Proper implementation of Access Management techniques should guarantee reduced congestion, reduced accident rates, less need for highway widening, conservation of energy, and reduced air pollution.

The following recommendations are made for access management:

- Develop formalized access management plans for specific major and minor arterial streets in the City of West Linn to provide a detailed assessment of current conditions, and document specific measures to maximize the capacity of each existing facilities and protect their functional integrity.
- Work with land use development applications to consolidate driveways where feasible.
- Provide left turn lanes where warranted for access onto cross streets.
- Construct raised medians to provide for right-in/right-out driveways as appropriate.

Table Error! No text of specified style in document.-4: Access Spacing Standards for City Street Facilities

Roadway Functional Classification	Area	Traffic Signals (miles)	Public Intersections (feet)	Private Driveways (feet)	Median Opening (feet)
Arterial	Urban	½	600	300	600
	Opportunity	¼	NA	NA	NA
Collector	All	¼	200	150	NA
Neighborhood Route	All	¼	150	100	NA
Local Residential Street	All	NA	100	50	NA
Local Commercial Street	All	NA	100	50	NA

"Urban" refers to intersections inside the West Linn urban growth boundary and outside the central business district or designated town centers.

"Opportunity" refers to the designated opportunity areas located in the Robinwood, Bolton, and Willamette neighborhoods.



Roadway Extensions to Improve Circulation

The City of West Linn's many cul-de-sacs, steep topography, and major facilities such as Highway 43 and I-205 limit intercity connectivity. Therefore, many intercity trips are forced to travel along the few through streets that do connect across these barriers. By providing connectivity between neighborhoods, out-of-direction travel and vehicle miles traveled (VMT) can be reduced, accessibility between various travel modes can be enhanced and traffic levels can be balanced out between various streets. Additionally, public safety response time can also be reduced.

Some of the congestion on roads such as Rosemont Road, Salamo Road, or Hidden Springs Road could be improved through improved neighborhood connectivity. Improved connectivity in the area east of Highway 43 and in the Tanner Basin area can provide circulation to existing or future traffic signals that will result in less delay and better safety for access onto the highway. Several short roadway connections will be needed within neighborhood areas to connect disjointed local streets and to reduce out-of-direction travel for vehicles, pedestrians and bicyclists.

The proposed Local Connectivity Plan for the City of West Linn is shown in Figure 8-6. In most cases, the improvements would involve the changing of a streets functional classification from local street to neighborhood route. In limited cases, a short length of new road would be necessary for improved connectivity. The arrows on Figure 8-6 represent recommended connections and the general direction for the placement of the connection in existing configurations. In each case, the specific alignments and design may be modified dependent upon future development review.

The criteria for providing local connections are based on the Metro RTP requirements for new residential or mixed-use developments.

- Every 330 feet, a grid for pedestrians and bicycles (may include paved roadway or trails)
- Every 530 feet, a grid for automobiles (local street or higher classification)



Transportation System Plan Update



LEGEND

- Local Street Connection
- Pedestrian/Bike Connection (No Autos)

NOTE: General connection route indicated. Precise alignments to be determined

DKS Associates
TRANSPORTATION SOLUTIONS



NO SCALE

Figure 8-6

FUTURE LOCAL STREET CONNECTIVITY IMPROVEMENTS



Transportation Demand Management (TDM)

Transportation Demand Management (TDM) is the general term used to describe any action that removes single occupant vehicle(SOV) trips from the roadway network during peak travel demand periods. As growth in the City of West Linn occurs, the number of vehicle trips and travel demand in the area will also increase. The ability to change a user's travel behavior and provide alternative mode choices will help accommodate this potential growth in trips.

The City of West Linn, Clackamas County, and TriMet should coordinate to implement the pedestrian, bicycle, and transit system improvements, which offer alternative modes of travel. The recommended TDM action plan includes:

- Support continued efforts by TriMet, Metro, ODOT, and Clackamas County to develop productive TDM measures that reduce commuter vehicle miles and peak hour trips.
- Update the City of West Linn Goals and Policies to adopt the 2040 Regional Non-SOV Modal Targets.
- Encourage the development of high-speed communication in all part of the city (fiber optic, digital cable, DSL, etc). The objective would be to allow employers and residents the maximum opportunity to rely upon other systems for conducting business and activities than the transportation system during peak periods.
- Encourage developments that effectively mix land uses to reduce vehicle trip generation. These plans may include development linkages (particularly non-auto) that support greater use of alternative modes.
- Continued implementation of motor vehicle parking ratios (minimum and maximum²) for new development.
- Continued implementation of building orientation and transit planning requirements for new development.
- Continued implementation of street connectivity requirements.
- Require new employment development to install bicycle racks.
- Implementation of bicycle, pedestrian, motor vehicle and transit system action plans as presented in this TSP.

Roadway Improvements

At the existing level of land development, the transportation system generally operates without significant deficiencies in the study area. However, both regional and local traffic volumes are projected to increase on many of the streets within the city by 2030. Notable roadways with traffic volume increases are Highway 43, 10th Street on both sides of I-205, and Rosemont Road. Two-way traffic volumes on these streets are projected to increase during the PM peak hour by approximately 1,000 vehicles per hour (vph) on Highway 43, 1,100 vph on 10th Street, and 700 vph on Rosemont Road. Many of the study intersections would fail to meet performance standards either (as applicable) for the City of West Linn or for the Oregon Department of Transportation (ODOT) as a result of the increases in volume.

In order to address future growth and projected deficiencies of the transportation system, various improvement alternatives were considered, with study intersections combined into three general groups:

² Minimum parking ratios allow vehicular storage when travelers do not have the flexibility to choose transit. Maximum parking ratios assist TDM goals by capping the number of stalls available for vehicles.



- Highway 43,
- 10th Street/I-205 interchange area, and
- Other West Linn intersections (generally located along Rosemont Road or other areas not associated with the first two groups).

The *West Linn OR 43 Conceptual Design Plan*³ (included as an Appendix to this TSP) analyzed intersections along the Highway 43 corridor and addressed multi-modal circulation concepts to guide future design. The plan maintains the current cross-section of one travel lane in each direction in order to keep the local character and meet community concerns, while not impacting existing right of way. Improvements such as adding left turn lanes to the median and traffic control would be made in some locations to increase capacity. However, due to the stated constraints, performance standards would still not be met at several locations, and design exceptions would need to be pursued from ODOT. Additional locations could meet performance standards by widening Highway 43 to a 5-lane section, however significant right of way impacts would be required to provide such an improvement. Recommended improvements are consistent with the Highway 43 Concept Plan configurations.

The *10th Street Area Plan*⁴ includes analysis of intersections along and in proximity to the 10th Street corridor. Through coordination with the 10th Street Traffic Task Force, the following three groups of improvement alternatives were developed and evaluated:

- Group A: 10th Street Capacity Enhancements
- Group B: Willamette Falls Drive Enhancements and Management Tools
- Group C: Major System Improvements.

Details regarding the configuration and performance of each group of improvements are located in the Plan. Recommendations were made following the analysis of each group of alternatives. These recommendations included dropping or advancing the consideration for improvements based on their performance and other evaluation criteria. Several recommendations for additional project consideration or further analysis in the TSP were included. Both a split diamond and single point urban interchange (SPUI) design were considered for the 10th Street interchange area.

Improvements for intersections that were not included in the two other groups (Highway 43 corridor or 10th Street Interchange Area) were analyzed independently. All remaining intersections are under the jurisdiction of City of West Linn and would meet performance standards with improvements to lane configuration or traffic control.

Based on the needs of the motor vehicle capacity analysis, a Motor Vehicle Master Plan was created that includes \$20.9 million for improvements on city roadways and intersections, and up to another \$50.9 million on state highways (depending on ultimate interchange configuration selected for 10th Street). These projects were developed in support of the City's transportation goals and policies, but due to funding constraints may not be included in the Action Plan – the subset of the Master Plan that is reasonably likely to be funded.

City street projects summarized in Table 1-5 include all the motor vehicle master plan projects within their jurisdiction. Projects that were also included in the Action Plan are noted as such.

³ West Linn OR 43 Conceptual Design Plan – Final Report, June 29, 2007.

⁴ *City of West Linn TSP Update - 10th Street Area Plan*, prepared by DKS Associates, November 2, 2007.



Table 1-5: Motor Vehicle Master Plan and Action Plan Projects – City of West Linn Facilities

No.	Location	Description	Plan	Cost (\$1,000)
1	Salamo Road / Rosemont Road	Add a traffic signal when warranted	Action	\$250
2	Willamette Falls Drive / Sunset Avenue	Add a traffic signal when warranted	Action	\$250
3	Rosemont Road / Carriage Way	Add a center median on Rosemont Road to allow two-stage left turn from Carriage Way	Action	\$1,420
4	Rosemont Way / Hidden Springs Road	Add a traffic signal when warranted and northbound/southbound left turn lanes on Rosemont Road	Action	\$750
5	Willamette Falls Drive / Ostman Road	Widen Willamette Falls Drive with center median 500' on each side of intersection to allow for two-stage left turn from Ostman Rd	Action	\$1,285
6	Willamette Falls Drive / Dollar Street (east)	Widen Willamette Falls Drive with center median 500' on each side of intersection for two-stage left turn from Dollar St	Action	\$1,420
7	10 th Street (I-205 SB Ramps to 8 th Court)	Widen to 5-lane section with center turn lane and 2 travel lanes each direction	Action	\$1,625
8	10 th Street (8 th Ave to Willamette Falls Drive)	Add through lanes on 10 th Street for a total of 2 lanes in each direction. Prohibit northbound left turn movement and replace left turn lane with ped island.	Action	\$480
9	Blankenship Road / 10 th Street	Add 2 nd eastbound right turn lane and restripe westbound approach to have exclusive left turn and shared left-thru lane	Action	\$500
10	10 th Street / Willamette Falls Drive	Change/upgrade traffic control to either signal or roundabout	Action	\$800
11	10 th Street / 8 th Avenue	Add right-in right-out access at the time of 8 th Court extension.	Action	\$20
12	10 th Street / I-205 NB Ramps	Add turn lanes (northbound right turn lane, stripe southbound approach to have dual left turn lanes and one thru lane, add exclusive NB Off-ramp left turn lane, and widen NB On-ramp to have two receiving lanes to support dual SB left turn movement)	Action	\$1,000
13	8 th Court	Extend 8 th Ct to Willamette Falls Dr. to provide additional access to 8 th Court retail. (Concurrently make 10 th Street/ 8 th Avenue right-in right-out access.)	Action	\$2,000
14	Willamette Falls Drive /12 th Street	All way stop control/ traffic signal when warrants are met	Action	\$250
15	Willamette Falls Drive /14 th Street	All way stop control when warrants are met	Action	\$10
16	Willamette Falls Drive /19 th Street	All way stop control when warrants are met	Action	\$10
17	8 th Avenue	Modify Dollar St connection to reconnect to 8 th Avenue, and provide alternative route for local trips.	Action	\$1,000
18	19 th Street / Blankenship Road	Upgrade to current City standards from Blankenship Rd/Debok Road to Willamette Falls Drive	Action	\$5,895
19	8 th Avenue	Upgrade from 10 th Street to Dollar Street	Master	\$1,695
20	Salamo Road / Parker Road	Add a traffic signal when warranted	Action	\$250
			Master Plan Total	\$20,910
			Action Plan Total	\$15,015



Major master plan street projects on ODOT facilities are listed in Table 1-6. These projects primarily include implementation of the Highway 43 Concept Plan as well as long-term improvements to the I-205/10th Street interchange. Most of the projects are reasonably expected to be funded as part of the Action Plan, as noted in the table. While these projects are located on facilities that are not under the jurisdiction of City of West Linn, funding a portion of the projects would increase the likelihood that they are constructed and serve the transportation needs of West Linn residents.

Table 1-6: Motor Vehicle Master Plan and Action Plan Projects – ODOT Facilities

No.	Location	Description	Plan	Cost (\$1,000)
21	Highway 43 / Willamette Falls Drive	Add a traffic signal that is coordinated with adjacent signal at I-205 NB Off Ramps	Action	\$250
22	I 205/10 th Street Interchange	Construct a long-term interchange improvement (SPUI or Split Diamond)	Master	\$15,000-\$30,000*
(Highway 43 Concept Plan Improvements)				
23	Highway 43 / Arbor Drive	Add left turn lanes on Highway 43 (cost included in Highway 43 segment cost, listed below)	Action	\$0
24	Highway 43 / Cedar Oak Drive	Realign shopping center driveway located to the southeast with intersection	Action	\$500
25	Highway 43 / Holmes Street	Modify circulation to allow exit only traffic from Holmes Street	Action	\$10
26	Highway 43 / Lewis Street	Modify circulation to prohibit left turns out from Lewis Street	Action	\$10
27	Highway 43 / Pimlico Drive	Add a traffic signal when warranted	Action	\$250
28	Highway 43 / Hood Street /McKillican Street	Modify traffic signal timing to have protected/permitted phasing on Hood and McKillican	Action	\$50
29	North City Limit to Marylhurst	Highway 43 Improvements**	Action	\$2,920
30	Marylhurst to Hidden Springs	Highway 43 Improvements**	Action	\$4,195
31	Hidden Springs to Pimlico	Highway 43 Improvements**	Action	\$5,385
32	Pimlico to Buck	Highway 43 Improvements**	Action	\$3,335
33	West A Street to Webb	Highway 43 Improvements**	Action	\$2,065
34	Webb to Hood-McKillican	Highway 43 Improvements**	Action	\$1,910
			Master Plan Total	\$35,880-\$50,880
			Action Plan Total	\$20,880

Notes:

*Cost of SPUI would be approximately \$15,000,000 while the split diamond configuration would cost approximately \$30,000,000

** Refer to Highway 43 Concept Plan for details



Motor vehicle Action Plan components are summarized in Table 1-7. For illustration purposes, a local match of 15 percent of construction costs was assumed for ODOT projects, however this does not represent a commitment by the city for this amount. There may be other opportunities or means to support state project on the Action Plan list.

The Action Plan map is illustrated in Figure 8-9, which is duplicated on the next page. Project numbers shown on the map correspond with value listed in the foregoing tables.

Table 1-7: Motor Vehicle Action Plan Cost Summary

Project Type	Cost
City of West Linn Facility Improvements	\$15,015,000
ODOT Facility Improvements - Local Match	\$3,132,000
Total Motor Vehicle Action Plan Cost	\$18,147,000



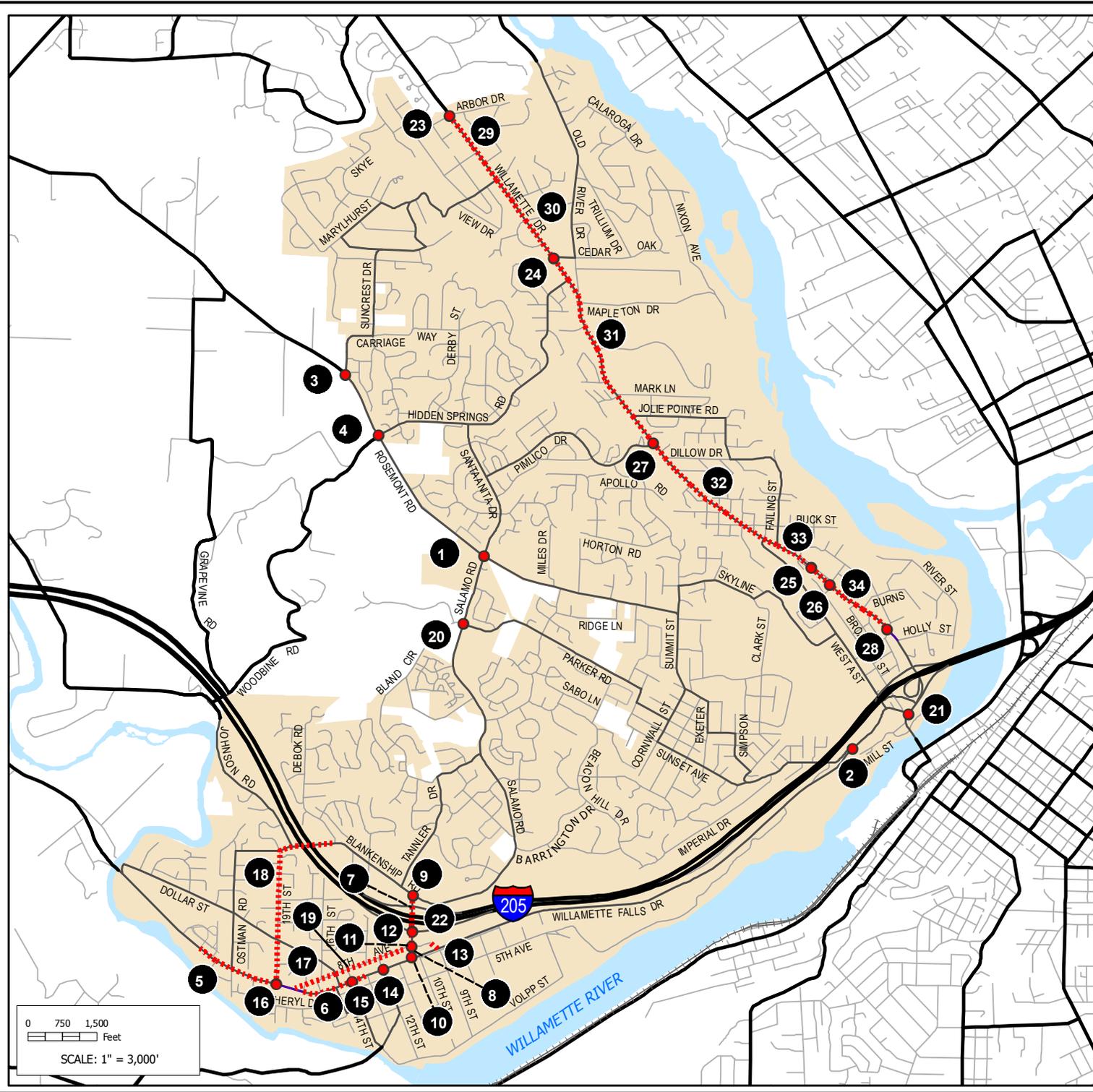
Transportation System Plan

FIGURE 8-9

MOTOR VEHICLE MASTER PLAN PROJECT LOCATIONS

LEGEND

- Facility Improvement
- Intersection Improvement
- Project Number
- Railroad
- Water
- City Limits



0 750 1,500 Feet
SCALE: 1" = 3,000'



Other Modes

Future needs and recommended improvements for other modes of transportation such as rail, interstate bus, air, water, freight, and pipeline are identified and summarized below.

Rail

No rail services are currently provided to the City of West Linn. Oregon City is provided service by the Southern Pacific Railroad, which runs parallel to Highway 99E. Given West Linn's current density and the urban form of the Portland metropolitan area, it is unlikely that passenger rail transportation will come directly to the City of West Linn. It is recommended that residents continue to use the services and facilities in the Portland area. Potential improvements in service exist with the expansion of regional systems currently being discussed. West Linn should continue to support and promote regional improvements to the transit system, and be actively involved in the coordination of these services and possible connecting services to best serve its residents. As the details of these systems and potential connecting points are not yet known, it is not possible to incorporate them into existing plans and facility improvements. West Linn should advocate for good connections from the city to future passenger rail stations.

Interstate Bus Transportation

Interstate bus service is available from downtown Portland at the Greyhound station. West Linn residents can reach this station either by private automobile or by the Route 35 Tri-Met line. Greyhound does not currently operate any suburban bus stations near West Linn.

If market conditions warrant, Greyhound or another interstate bus service would serve West Linn residents better with a suburban station south of Portland. Oregon City used to have an interstate bus station, and West Linn would recommend re-activating this facility. However, a decision to provide such a station would be market-oriented since inter-city bus service providers are private corporations.

Air Transportation

West Linn residents are encouraged to continue to use the services and facilities available at the Portland Metropolitan Airport and at the General Aviation Airport in Aurora. As air will continue to grow as a popular and efficient form of transportation, it is important that West Linn residents have a convenient and reliable method for getting to the airports. Although I-205 provides direct access to the Portland Airport, increasing traffic makes its reliability questionable. The City of West Linn needs to petition and support ODOT in their efforts to improve flow on this important link with capital improvements, and with traffic management efforts.

Water Transportation

West Linn lies along the west side of the Willamette River. The Willamette Falls Locks, operated by the U.S. Army Corps of Engineers, are a part of the water-borne transportation system through West Linn. As the City recognizes the river and locks as an efficient mode of transportation for commercial traffic, land use decisions and policy development concerning the locks and riverfront should promote the continued use of these facilities.

Use of the river to transport people, either by river taxi or a ferry is a concept West Linn residents have suggested and are open to. The provision of such services is market-driven and will not be provided by a private company until it becomes economically viable. As the implementation of this type of service would require an immense capital undertaking, it would not be fiscally responsible for the City to



undertake such a project. However, because river taxis and ferries offer potential transportation alternatives, future policy and land use decisions should protect and promote their use in the future by allowing for landing and docking sites.

Freight and Goods Movement

The two routes within West Linn most used for freight movement by truck are I-205 and Highway 43, both under the jurisdiction of the Oregon Department of Transportation. It is recommended that the state monitor the traffic and accident patterns along I-205, especially in the vicinity of the Highway 43 interchange.

Pipeline

There are no pipelines transporting commodities in West Linn except those used in the West Linn Paper Company industrial complex, and pipelines from the Smurfit Paper Mill in Oregon City to settling ponds along the Willamette River in West Linn.. A sewage force main that is part of the Tri-City Sewerage District facility crosses the Willamette River. Several Northwest Natural Gas mains run through West Linn. Also, the South Fork Water Board has a potable water pipeline across the Willamette River serving West Linn.

Financing

Transportation funding is commonly viewed as a user fee system where the users of the system pay for infrastructure through motor vehicle fees (such as gas tax and registration fees) or transit fares. However, a great share of motor vehicle user fees goes to road maintenance, operation and preservation of the system rather than construction of new system capacity. Much of what the public views as new construction is commonly funded (partially or fully) through property tax levies, traffic impact fees and fronting improvements to land development. The City of West Linn utilizes several mechanisms to fund construction of its transportation infrastructure, including:

- Fuel Tax and Vehicle License Fee
- System Development Charge
- Exactions (Developer Required Improvements)
- Street Maintenance Fee

Under the above funding programs, the City of West Linn will collect approximately \$1.7 million for street construction and repair each year. Over the 23-year life of this planning period, that is equivalent to \$39.2 million in today's dollars.

The costs outlined in the Transportation System Plan to implement the Action Plans for Streets, Transit, Bicycles, and Pedestrians total \$21.2 million, and several other recommended transportation operations and maintenance programs would add \$23.3 million for a total cost over 23 years of \$44.6 million. This total exceeds the expected 23-year revenue estimate of \$39.2million by approximately \$5.4 million. However, the relative gap between available revenue and total expenditures of projects included in the plan (approximately 10%) indicates that projects included in the Action Plan are reasonably likely to be funded



Table 1-8: Transportation Action Plans Costs over 23 years (2007 Dollars)

Transportation Element	Approximate Cost (\$1,000)
System Improvement Projects (Action Plans projects to be funded by City)	
Motor Vehicle – City of West Linn Facilities	\$15,015
Motor Vehicle – State Facilities (15% contribution)	\$3,132
Bicycle	\$1,815
Transit	\$1,275
Pedestrian	\$0*
Total Capital Projects	\$21,237
Operations, Maintenance and Other Programs and Services	
Roadway Maintenance (\$714,000 per year)	\$15,708
Street Lighting (\$331,000 per year)	\$7,613
Total Operations and Maintenance Programs	\$23,321
23 YEAR TOTAL COST	\$44,558
23 YEAR TOTAL FUNDING	\$39,197
23 YEAR ADDITIONAL NEED	\$5,361

* Pedestrian projects and funding are included in the Highway 43 Concept Plan

While the Action Plan is reasonably expected to be funded, additional projects included in the Master Plan are not expected to be funded. The projects costs for the remaining projects noted in the modal Master Plans require additional funding, and they are expected to be built beyond the 23-year horizon or completed with development exactions or other unanticipated funding sources. Table 10-3 summarizes the additional Master Plan projects for each mode that are not included in the reasonably fundable Action Plan.

Table 1-9: Master Plan Projects not in Action Plan – Costs over 23 years (2007 Dollars)

Transportation Element	Approximate Cost (\$1,000)
System Improvement Projects (Not funded by City in Action Plan)	
Motor Vehicle	\$5,895
Bicycle	\$6,720
Transit	\$0
Pedestrian	\$19,700
23 YEAR TOTAL in 2007 Dollars	\$32,315